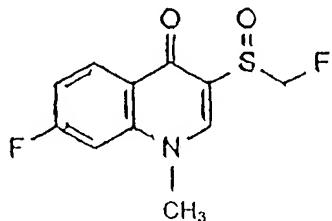


CLAIMS

We claim:

1. A composition comprising 7-fluoro-3-fluoromethylsulfinyl-1-methyl-4-quinolone.

5 2. A composition comprising monofluoroflosequinan, said monofluoroflosequinan having the structure:



3. A method, comprising:

a) providing:

10 i) 7-fluoro-3-fluoromethylthio-1-methyl-4-quinolone and ii) m-chloroperbenzoic acid (MCPBA); and

b) reacting said 7-fluoro-3-fluoromethylthio-1-methyl-4-quinolone and m-chloroperbenzoic acid in a solvent under conditions such that 7-fluoro-3-fluoromethylsulfinyl-1-methyl-4-quinolone is produced.

15 4. The method of Claim 3, wherein said solvent is dichloromethane (DCM).

5. A method, comprising

a) providing:

i) 7-fluoro-1-methyl-3-methylsulfinyl-4-quinolone
(flosequinan), and ii) (diethylamino)sulfur trifluoride (DAST);

and

b) reacting said 7-fluoro-1-methyl-3-methylsulfinyl-4-quinolone (flosequinan), and (diethylamino)sulfur trifluoride in a solvent under conditions such that 7-fluoro-3-fluoromethylthio-1-methyl-4-quinolone is produced.

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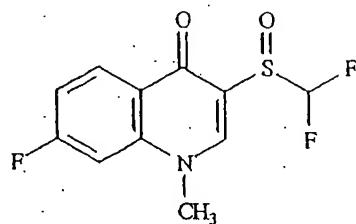
10 6. The method of Claim 5, wherein said solvent is dichloromethane (DCM).

7. The method of Claim 5, wherein said providing step a) additionally provides iii) a catalyst and said reacting step b) occurs in the presence of said catalyst.

15 8. The method of Claim 7, wherein said catalyst is antimony chloride ($SbCl_3$).

9. A composition comprising 3-difluoromethylsulfinyl-7-fluoro-1-methyl-4-quinolone.

10. A composition comprising difluoroflosequinan, said difluoroflosequinan having the structure:



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11. A method, comprising:

a) providing:

i) 7-fluoro-3-fluoromethylthio-1-methyl-4-quinolone,

ii) SELECTFLUOR and iii) triethylamine and

b) reacting said 7-fluoro-3-fluoromethylthio-1-methyl-4-

quinolone, SELECTFLUOR and triethylamine in a solvent under
conditions such that 3-difluoromethylthio-7-fluoro-1-methyl-4-quinolone
is produced; and

c) further reacting said 3-difluoromethylthio-7-fluoro-1-

methyl-4-quinolone with m-chloroperbenzoic acid (MCPBA) in a
solvent under conditions such that 3-difluoromethylsulfinyl-7-fluoro-1-
methyl-4-quinolone is produced.

12. The method of Claim 11, wherein said solvent in step b) is acetonitrile.

13. The method of Claim 11, wherein said solvent in step c) is

15 dichloromethane (DCM).